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ABSTRACT

A model for evaluating the effectiveness of graduate programs is proposed. It is emphasized that the primary purpose of this model is to provide graduate program administrators with data that will aid program assessment and curricular improvement. Examples of five forms useful in gathering data are appended. (MM)

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Graduate Program Effectiveness:
An Evaluative Model

by

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The determination of graduate program effectiveness is a matter of continuing concern to higher education administrators who are involved with program evaluation and revision.

Because of constraints of time and resources, it is becoming increasingly difficult to determine the appropriate ratio of research time to be spent vs. production of useful data.

The files of every graduate office contain myriad data which, if retrievable, would prove to be useful planning and evaluation tools for those engaged in graduate program administration and instruction.

Depending upon the scope of an institution's graduate programs and the extent to which data is accessible, the total population or a stratified (by program) random sample can be used. For the determination of enrollment and performance trends, data from the files of the previous five-years' graduates should provide an academically defensible basis from which to make decisions regarding program curtailment, revision, expansion, or implementation. (The standard annual-survey-of-graduates technique can provide input toward identifying perceived needs in existing programs and potential new-program markets.)

A consideration in data gathering procedures involves the maintenance of confidentiality. It should be noted that it is not considered appropriate to allow graduate teaching assistants, etc., to retrieve data from confidential files of former graduate students, thus further complicating the task of data gathering.

Graduation lists of the previous five-year period should be compiled identifying degree recipients by program. A form similar to that included as Appendix A can be used to record these data.

Individual students' names, degree earned, date of degree award, Undergraduate GPA, Undergraduate College, GRE-Verbal, GRE-Quantitative, GRE-Total, Graduate GPA, and Date of Initial Application, among others, are items which are readily available and, as aggregate data, will provide the previously mentioned statistical base from which inferences will be drawn to facilitate necessary decision-making.

A program summary sheet similar to that included as Appendix B can be used to provide a statistical overview of each respective program as it relates to the data of all programs combined.

A third form, included as Appendix C, can be used as a display to represent, in a comparative format, the statistics of all programs.

Analysis of Data:

It should be re-emphasized that the primary purpose for utilizing this model is to provide graduate program administrators with data from which well-founded decisions might be made toward program improvement. In certain instances, it may be politic to adhere to a policy of limited distribution of the statistics generated by these sorts of studies particularly if some programs appear to perceive themselves as being significantly more vulnerable than others. Likewise, at the policy-making level, it is important that a somewhat detached, albeit conservative, outlook be maintained. For, it is felt that radical and/or abrupt changes that might affect one discreet segment of a graduate program directly, may potentially have a profound indirect effect by upsetting the homeostasis of an entire graduate division. In addition, if the faculty and administration of a specific program are particularly sensitive to scrutiny, the resulting defensiveness can prove to be counter-productive.

The raw data provided on form A is of obvious benefit to the respective programs. As opposed to solely providing profiles, means, etc., the raw data make

it possible to identify the entire range of performance within each category. Correlational studies identifying the relationship between UGPA and GGPA, GPA and GRE performance, etc., should prove to be extremely useful as predictive validity devices when incorporated into the admissions process. A comparison of time periods between application dates and dates of degree award might identify program characteristics contributing to either inordinate program acceleration or inordinate program constraints. Also, the identification of the students' undergraduate colleges can provide insights into the level of performance by graduates of particular "feeder" institutions.

The program summary sheet (Form B) clearly delineates the number of graduates from a program in addition to the proportion of the total that number represents. This statistic can be ominous in that there exists the danger of ascribing an equivalent "expected" percentage of total graduate program production simply by dividing 100% by the number of programs. It is very difficult to resist this urge especially if one happens to be associated with a graduate program producing a significantly higher proportion than is theoretically "expected". It is, on the other hand, quite possible for a low production program to be justified solely on the basis of a high quality product yield. These questions are moot depending upon institutional character and mission.

The number and proportion of an institution's own Bachelor's degree recipients being served by its graduate programs provides insights regarding levels of program provinciality. The likelihood of infusion of new perspectives through the heterogeneity of clientele is increased by making faculty sensitive to this area of concern.

The Mean Undergraduate GPA and Mean Graduate GPA of a specific program's graduates in relation to Grand Means of all programs combined can be used as a method of determining relative entrance and exit levels of that program.

GRE-Verbal, Quantitative, and Total Means by program as compared to respective Grand Means of all programs combined and the national percentiles those

statistics represent identify benchmarks in the broadest sense. National norms are readily available in Guide to the Use of the Graduate Record Examinations published by the Educational Testing Service, Princeton, New Jersey.

The comparative program display form (Appendix C) simply provides an overview of all appropriate graduate programs as they relate to one another. This digest should be distributed on a limited basis for the aforementioned reasons.

Conclusion

Upon completion of data gathering, compilation, and analysis, specific and general program recommendations can be made. These recommendations should be accompanied by the corresponding supportive data in abstract form for presentation to the graduate policy-making body. It cannot be over-emphasized that the purpose of such studies must be perceived by all involved in the graduate instructional process as a non-threatening means of utilizing existing data toward curricular improvement.

The coordinating office (usually the Office of Graduate Studies), which has one of its primary concerns increasing the consistency of policy vis-a-vis practice in all graduate programs, will find this evaluation model to be of great benefit toward stimulating qualitative changes through on-going self-evaluation.

FIVE YEAR SUMMARY OF GRADUATE DEGREE PRODUCTION BY PROGRAM (For Limited Distribution Only) Appendix A

Program _____

Name	Degree	Date Awarded	UGPA	GGPA	College	GRE-V	GRE-Q	Total	Application Date

Appendix B

5 Year Profile: Graduate Programs

_____University

(For Limited Distribution Only)

Program _____

ALL PROGRAMS

Number of Master's Graduates:	Total Master's Graduates:
Percent of Total Master's Graduates:	-
Number of own Bach. Grads. receiving Master's Degrees:	Total, all programs:
Own Bach. Grads. as % of total receiving Master's Degrees in this Program:	Own Bach. Grads. as a % of total receiving Master's Degrees, all programs:
Undergraduate GPA mean:	Grand mean, all programs:
G.R.E. Verbal mean:	Grand mean, all programs:
G.R.E. Quantitative mean:	Grand mean, all programs:
G.R.E. - Totals mean:	Grand mean, all programs:
Graduate GPA mean:	Grand mean, all programs:

5 Year Profiles: Graduate Programs

_____ University

	PROGRAMS								
	1	2	3	4	5	6	7	8	TOTALS
Number of Master's Graduates 1972-77:									
Percent of Total Master's Graduates:									
Number of own Bach. Grads. receiving Master's Degrees:									
Own Bach. Grads as % of total receiving Master's Degrees in each program:									
Undergraduate GPA Mean:									
G.R.E. - Verbal Mean:									
G.R.E. - Quantitative Mean:									
G.R.E. - Totals Mean:									
Graduate GPA Mean:									

Appen. D: *The Aptitude Test—Normative Data Based on the Performance of Candidates Tested from October 1971 through September 1974*[1]

Scaled Score	Percent of Candidates Scoring Lower than Selected Scaled Scores	
	VERBAL ABILITY	QUANTITATIVE ABILITY
800		99
780		98
760	99	97
740	98	95
720	96	93
700	94	90
680	92	87
660	89	84
640	86	80
620	82	76
600	78	72
580	73	67
560	68	62
540	62	57
520	56	51
500	50	46
480	44	41
460	38	36
440	32	31
420	27	26
400	23	22
380	18	18
360	15	14
340	11	11
320	9	9
300	6	6
280	4	4
260	3	3
240	1	2
220		1
Number of Candidates	884,680	884,680
Mean	494	510
Standard Deviation	126	136

[1] Educational Testing Service, Guide to the Use of the Graduate Record Examinations 1975 - 1976. Princeton, New Jersey, 1975. (p. 17)

Appendix E: Median Validity Coefficients[#] for Various Predictors and Criteria of Success in Graduate School[1]

Predictors	Criteria of Success: Graduate GPA	Overall Faculty Rating	Dept. Exam.	Attain Ph.D.	Time to Ph.D.
1. GRE-Verbal	.24 46	.31 27	.42 5	.18 47	.16 18
2. GRE-Quantitative	.23 43	.27 25	.27 5	.26 47	.25 18
3. GRE-Advanced	.30 25	.30 8	.48 2	.35 40	.34 18
4. GRE-Composite	.33 30	.41 8	*	.31 33	.35 18
5. Undergraduate GPA	.31 26	.37 15	*	.14 30	.23 9
6. Recommendations	*	*	*	.18 15	.23 9
7. GRE-GPA Composite (weighted)	.45 24	*	*	.40 16	.40 9

[#] The lower number in each pair (set in smaller type) represents the number of coefficients upon which each median is based

* No data available

1 Warren W. Willingham, "Predicting Success in Graduate Education." in Papers Presented at the Graduate Record Examinations Board Research Seminar at the 12th Annual Meeting of the Council of Graduate Schools, Educational Testing Service, Princeton, New Jersey, May, 1973. (p. 21)

Appendix F: Median Validity Coefficients[#] for Five Predictors of Graduate Success (variously defined*) in Nine Fields[1]

Predictors	Biological Science	Chemistry	Education	Engineering and Applied Science	English	Math	Physics	Psychology	Social Science
GRE-Verbal	.18 (7)	.22 (14)	.36 (15)	.29 (11)	.21 (6)	.30 (6)	.02 (6)	.19 (23)	.32 (11)
GRE-Quantitative	.27 (8)	.28 (13)	.28 (14)	.31 (10)	.06 (6)	.27 (6)	.21 (6)	.23 (22)	.32 (10)
GRE-Advanced	.26 (5)	.39 (9)	.24 (6)	.44 (7)	.43 (3)	.44 (5)	.38 (5)	.24 (17)	.46 (5)
Undergraduate GPA	.13 (2)	.27 (7)	.30 (5)	.18 (4)	.22 (4)	.19 (4)	.31 (4)	.16 (15)	.37 (6)
GRE-GPA Composite (weighted)	.35 (3)	.42 (6)	.42 (7)	.47 (4)	.56 (2)	.41 (3)	.45 (2)	.32 (4)	.40 (5)

[#] The lower number in each pair (set in smaller type) represents the number of coefficients upon which each median is based

* In those sets of data where two criteria were included, one was selected for the purposes of this table in the following order of priority: GPA, Attain Ph.D., Dept. Test, and Faculty Rating

[1] Warren W. Willingham, "Predicting Success in Graduate Education." in Papers Presented at the Graduate Record Examinations Board Research Seminar at the 12th Annual Meeting of the Council of Graduate Schools, Educational Testing Service, Princeton, New Jersey, May, 1973. (p. 22)